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Angola: Military Geography of UNITA's Southeastern Stronghold

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An Intelligence Assessment

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December 1984

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An Intelligence Assessment

This paper was prepared by [redacted]
Office of Global Issues. It was coordinated with the

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[redacted]
Comments and queries are welcome and may be
directed to the Chief, Geography Division, OGI, on

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**Angola: Military Geography
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Stronghold**

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Key Judgments

*Information available
as of 23 October 1984
was used in this report.*

Insurgents of the National Union for the Total Independence of Angola (UNITA), with an estimated 35,000 armed men, claim the southeastern third of the country—an isolated, sparsely populated region the former Portuguese colonial rulers called “the land at the end of the world.” This region has been an effective haven, training base, logistics center, and headquarters for Jonas Savimbi’s insurgents. Although a recent government military offensive into the region failed, we believe ground assaults and air attacks against some of the more than 30 UNITA base camps are likely. But climatic factors suggest that, once the wet season has begun (usually by November), major ground and air operations would be extremely difficult until at least April.

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Military and insurgent activities in Angola are strongly affected by geography. Long distances from government-controlled areas to insurgent strongholds, poor transportation routes, and seasonally bad weather are important considerations in assessing the feasibility of military operations in the region. This study analyzes the key geographic factors affecting existing and potential military and insurgent operations in the southeast.

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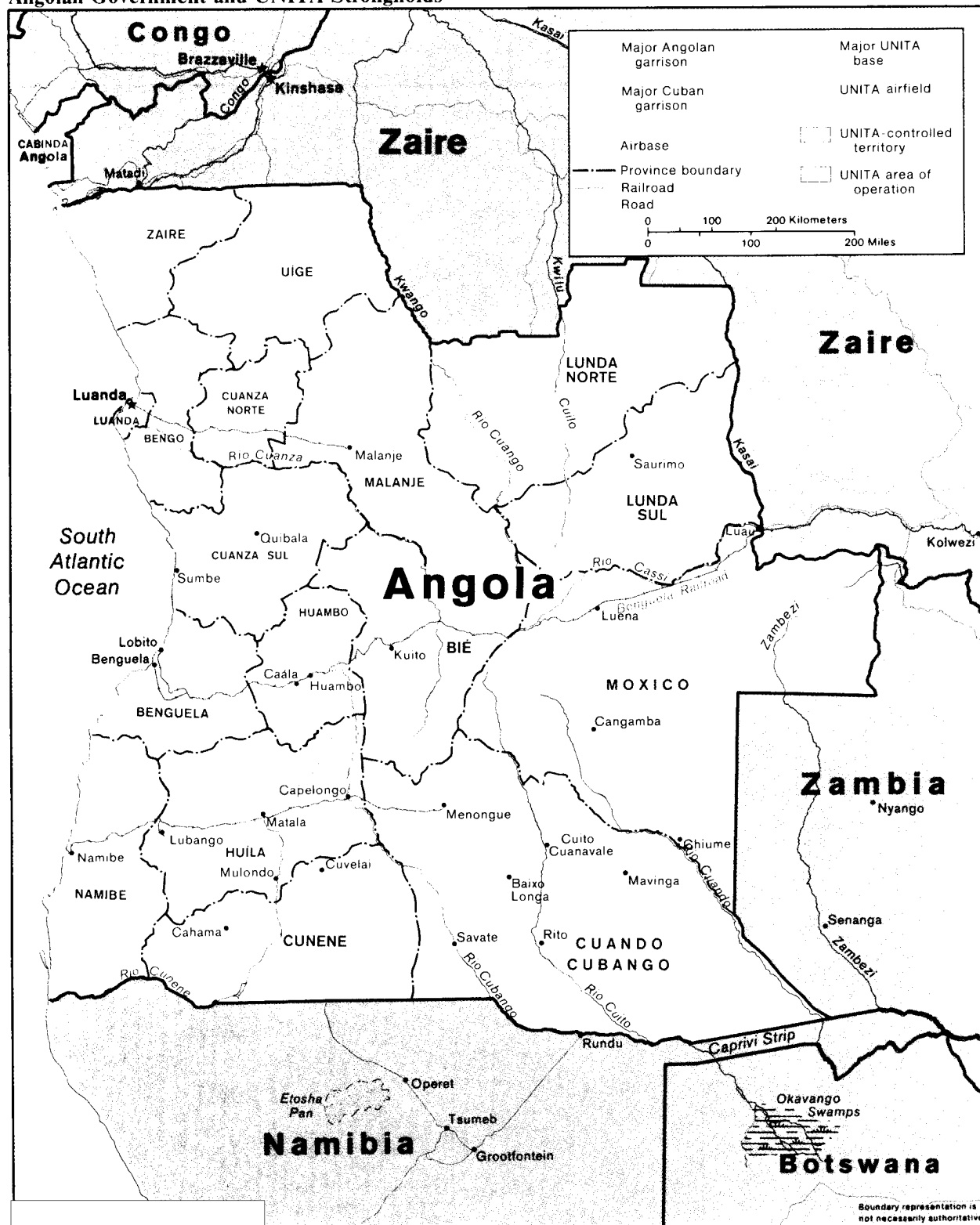
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Figure 1
Angolan Government and UNITA Strongholds



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Angola: Military Geography of UNITA's Southeastern Stronghold

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The Setting

The southeast is the most sparsely settled and the least economically developed part of Angola. Although the region (comprising most of the provinces of Moxico and Cuando Cubango) is as large as Montana and represents more than 30 percent of Angola's total land area, it contains only 5 percent of the population. All of the active oilfields, diamond mines, coffee plantations, and railroads and practically all of the hard-surfaced roads and airfields are elsewhere. The southeast is remote from major political and population centers; Jamba,¹ UNITA's main headquarters, is more than 1,250 kilometers (km) from Luanda

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Invading Angolan Government forces must contend with many logistics problems and face an enemy more familiar with the terrain. Although the region is mostly scrub and grassland (with elevations ranging from about 1,800 meters in the north to about 1,000 meters in the south), it is difficult to cross because of numerous streams and rivers and lack of roads. Debilitating heat and humidity and torrential rains also combine to create an environment hostile to large-scale military operations

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Population

Few people inhabit this remote region. Moxico Province has only one person per square kilometer while Cuando Cubango has only one person per 2 square kilometers. Most of the people live in small villages along major rivers, such as the Rio Cuando and Rio Cubango. Areas away from the rivers are practically uninhabited except for scattered nomadic bushmen.

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The dominant ethnic group is the Ganguela; lesser groups include the Xindonga, Khoisan, and Ovambo. These people were formerly nomadic gatherers and hunters, but most now live in protected villages, which UNITA calls "liberated areas." They keep cattle and raise crops such as maize, cassava, and a wide variety of vegetables; much of their produce goes to the insurgents. Many of the UNITA adherents in the

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The UNITA Insurgency

UNITA was founded by Dr. Jonas Savimbi in 1966. It was one of a number of liberation movements embroiled in bitter fighting not only with the Portuguese colonial powers but also with each other. After the Portuguese relinquished control of Angola in 1975, the war continued between insurgent groups including UNITA and the Popular Movement for the Liberation of Angola (MPLA). The MPLA, with the aid of Cuban troops and Soviet weapons, finally gained control of the capital and most of the country, but UNITA continued guerrilla warfare

After a series of defeats in 1976, Savimbi's ragged army retreated to safety in the southeastern bush for a long training program. Early operations included hit-and-run raids on nearby targets to secure its safehaven and the promotion of a guerrilla campaign in the central highlands. Since then UNITA has methodically established control across a large part of the Angolan countryside and has isolated government-held towns. Though at first strictly a guerrilla organization, it has more recently been employing semiconventional forces. During the past two years, UNITA has expanded its operations into central and northern Angola

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UNITA has established a system of collective farms and has provided extension services to villages in the southeast. In exchange for one day's labor each week, peasants can borrow tractors and oxen for plowing private plots. UNITA also has programs in education, medicine, and technical services

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UNITA is backed by the largest of Angola's ethnolinguistic groups, the Ovimbundu of the central and southern part of the country. UNITA spokesmen claim that the insurgents are also gaining support of other ethnic groups, especially the Chokwe, Ganguela, and Ovambo. Many observers believe UNITA could win a majority in a free election—something Angola has never had

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Milestones in the Insurgency

1977 October UNITA launched over 100 attacks within three weeks and repeatedly cut the Benguela Railroad.

1982 November UNITA began a six-month offensive, virtually doubling its territory while expanding operations in central and northeastern Angola.

1983 August UNITA captured the government garrison at Cangamba in the first major battle using conventional forces.

 November UNITA began another major six-month campaign.

1984 March UNITA captured and briefly held Sumbe in the first raid on a provincial capital.

 April UNITA car bombing in Huambo killed a number of Cuban advisers.

 May UNITA began another military campaign; fighting intensified in the northern provinces.

 July UNITA blew up a major oil pipeline in the first raid into the Cabinda enclave.

 August Increasing evidence of plans for government invasion of UNITA-controlled territory.

 October Government forces pulled back to garrisons after unsuccessful attacks in the southeast. []

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region were recruited among the Ovimbundu of Angola's central highlands and brought to the region for training and inclusion in the insurgents' military arm. []

UNITA has won the support of the inhabitants. The organization maintains well-run education and health services in the region. Journalists have written about bush schools that provide for the basic educational needs of small children and about more sophisticated technical schools for older students. According to one journalist's report in late 1983, UNITA also claimed to have five central hospitals, 22 regional hospitals, and almost 200 dispensaries and to have given free medical treatment to 67,000 persons over a period of six months. []

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Table**Climatic Data, Mavinga
(Southeastern Angola)**

	Daily Mean Temperature				Mean Precipitation	
	Maximum		Minimum		cm	in
	[°] C	[°] F	[°] C	[°] F		
Jan	29	84	18	64	18	7
Feb	28	83	17	63	20	8
Mar	29	84	16	61	18	7
Apr	29	85	13	56	2	1
May	28	82	7	45	2	1
Jun	26	78	4	40	0	0
Jul	26	78	3	38	0	0
Aug	28	83	6	43	0	0
Sep	32	90	11	53	0	0
Oct	33	92	16	60	5	2
Nov	30	86	17	63	8	3
Dec	29	85	17	63	14	5

Vegetation

The region's vegetation—mostly savanna and scrub with isolated deciduous trees—has an important influence on military operations. It is a barrier to vehicles and can provide camouflage. Seasonal changes strongly affect the degree of concealment. The trees, mainly baobabs and spiny acacias, are generally less than 10 meters high; during the dry season they are leafless and conceal little from the air. The savanna, consisting mainly of elephant grass, also offers only limited concealment in the dry season. However, during the wet season the thicker vegetation provides much better cover for guerrilla ambushes. Most UNITA base camps have been near streams, where vegetation is densest. []

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Weather and Climate

The climate is tropical, normally with a distinct wet season (November through March) and a dry season (May through October) (see table). For the past two years, however, drought has probably prevailed over the southeast. Extrapolation from data in adjacent

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Figure 2. UNITA leader Jonas Savimbi and his bodyguards.



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Figure 3. Shooting instruction amidst typical savanna and scrub vegetation.



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countries shows that precipitation for the past two wet seasons was only about 50 percent of normal. Thus, the logistic and military operating environment may have been somewhat better than usual. []



Figure 4. One of the better roads in southeastern Angola. During the wet season it becomes miry and passable only by four-wheel-drive vehicles. During the dry season it becomes a sandy track. []

25X1 Dry and wet seasons affect government and insurgent forces differently. Dry-season conditions, when dirt roads are firm and vegetation cover light, favor conventional military and counterinsurgent operations. In contrast, the wet season favors the insurgents because of better cover and concealment from the more abundant vegetation, difficulties for vehicular and troop movements, and poor flying conditions. June, July, and August are virtually rainless and the best time for a major invasion. []

25X1 An invasion during October is possible, but after the wet season begins, usually by November, miry soils and flooded rivers and streams limit conventional military operations. Movement over the primitive roads and tracks is difficult. For example, in late March 1984 a group of journalists was brought to Jamba from an airfield at Coutada do Mucusso; the 160-km trip along bush tracks in torrential rains took over 10 hours. []

25X1 with reeds and trees. Bottoms in the lower reaches are generally mud and sand and in the upper reaches are mostly rock and gravel. Flooding is common along most streams during the high-water period (November through March). Perennial swamps are found along the Rio Cuando south of Rivungo. []

25X1 Rainfall in the region decreases from an annual average of about 120 centimeters (cm) in the north to only 50 cm in the south along the Namibian border. The highest temperatures, reaching 30 degrees Celsius or more, occur from September to November. Insurgents complain that the engines of their captured Soviet and East European trucks often burn out in the severe heat. []

Surface Transportation

The region's unsurfaced roads, tracks, and trails could not support sustained heavy military traffic. Most of the roads parallel major rivers. During the dry season the river banks themselves are sometimes used as roads. All of the roads south of 15 degrees latitude are classified on Angolan-produced maps as "dirt, suitable only for cross-country vehicles." Travel along them, even by four-wheel-drive vehicles, is slow. Because of sandy soils, late in the dry season the roads are rutted and difficult to cross and during the wet season they are miry and practically impassable. []

25X1 **Hydrology**
Rivers and streams form the only major topographical obstacles to vehicles and people. Most of the large rivers rise in the uplands just south of the Benguela Railroad and flow southeasterly into tributaries of the Zambezi River or into the swamps of northwestern Botswana. The three principal rivers, the Rio Cubango in the west, the Rio Cuito in the center, and the Rio Cuando in the east along the Zambian border, although less than 20 meters wide in their upper reaches, are over 150 meters wide in their middle and lower courses. Thus, crossing becomes increasingly difficult downstream to the southeast. Streambanks are steep in many places and sometimes thickly lined

The better roads, which invading government forces would use, are mined and closely watched by the insurgents. Burning government vehicles have recently been seen on some of these roads. The two paved roads into the region lead southward to Chiume in the east and Menongue in the west. The road southward

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Figure 5. UNITA troops crossing the Rio Cuando in a motorboat. [redacted]



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from Chiume leading to Luiana on the Zambian border, however, is a 4-meter-wide unimproved dirt road, which floods during the rainy season. The road eastward from Menongue is hard surfaced as far as Longa but then deteriorates into a 4-meter-wide unimproved dirt road to the garrison town of Cuito-Cuanavale. At least one of the government's military convoys using this road employed heavy-lift transporters to carry a small number of tanks to Cuito-Cuanavale. The road continues east and south through Mavinga all the way to Neriquinha where it joins the Chiume-Luiana road. Two poor dirt roads, also of low capacity, follow the Rio Cubango and the Rio Cuito. Away from the rivers, the roads turn into trails usable only by four-wheel-drive vehicles. [redacted]

convoys of heavy military equipment. Although government forces might attempt to use this route, they lack familiarity with the system and would be highly vulnerable to ambushes. [redacted]

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None of the rivers of the southeast are navigable by large boats, but UNITA has used dugout canoes to transport men and supplies on some of them. UNITA has also used rubber boats for ferrying troops across rivers. A journalist's report of one such crossing indicated that in a marathon 52-hour operation 1,200 insurgents were transported to the other side of a river, 20 at a time in the boats. [redacted]

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UNITA Installations

Over the past two years, more than 30 UNITA base camps have been identified [redacted]

These camps range in size from the large Jamba headquarters to small staging bases near government-held towns or garrisons. The camps serve housing, training, storage, and logistic support functions for UNITA. Insurgents infiltrate personnel and supplies from the camps into central and northern Angola.

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When moving to the north, UNITA guerrillas follow a series of overland routes, nicknamed by journalists the Savimbi Trail. These routes, consisting of tracks and trails, connect farther north with unpaved roads and eventually with the few paved roads leading to the Benguela Railroad. UNITA engineers are improving the Savimbi Trail by clearing vegetation and constructing rudimentary bridges and catwalks across streams and swamps. But movement on the trail is still slow and arduous. Although suitable for infiltrating guerrillas northward, it would not support large

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Additional camps probably are being constructed beyond those in the southeast as UNITA expands its operations. [REDACTED]

25X1 Jamba consists of two adjoining camps just south of the Biongue River about 30 km north of the Namibian border. The camps are a combined military base and large civilian-inhabited village that together cover over 20 square km and reportedly have a population of as many as 10,000. Jamba is the largest and most highly developed complex of UNITA bases. Two other large camps immediately north of the Namibian border, Mucusso and Babwata, are the primary conduits for South African supplies to UNITA. The remaining camps are scattered along streams and rivers throughout the southeast. [REDACTED]

25X1 Five graded-earth airfields in the UNITA-controlled part of the region can accommodate light and medium aircraft. Coutada do Mucusso, the principal airfield, has been upgraded recently. [REDACTED]

25X1 [REDACTED] journalists say light planes have used this airfield. UNITA in the past showed little concern about possible airstrikes, but it now employs rudimentary air defenses and has anti-aircraft guns and SA-7 missiles protecting some of its base camps and other facilities [REDACTED]

Government Positions in the Region

The Angolan Armed Forces (FAPLA)² have built up large concentrations of troops along the major lines of communication surrounding the southeast and have recently deployed combat aircraft at nearby airfields. A substantial part of the Angolan Army is stationed along the Benguela Railroad to defend the line and to interdict UNITA movement northward. The provincial capitals at Menongue and Luena are the main government centers and the largest garrisons. Both are served by all-weather airfields capable of supporting operations by combat aircraft. Cuban troops are stationed at both centers. [REDACTED]

Ground operations directed against the main UNITA bases are conducted from the main garrison at Menongue. Any large-scale movement would probably be detected by UNITA, which has interdicted convoys on the road leading eastward, and government troops would find it difficult to protect their supply lines. [REDACTED]

² The overall strength of the Angolan Armed Forces is about 100,000 men: the Army has about 35,000; the Air Force, 2,000; the Navy, 2,000; and the People's Militia, 60,000. Cuban troops in Angola probably number as many as 35,000 and Soviet adviser strength may be as high as 1,500. [REDACTED]

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Airfields in Southeastern Angola

Coutada do Luengue (16°42'10"S 20°16'00"E).
UNITA controlled. South of Rio Luange. 130 km
north of Angolan-Namibian border. Approximately
1,800-meter graded-earth runway.

Coutada do Mucusso (17°01'01"S 21°18'08"E).
UNITA controlled. 110 km north of Angolan-Namib-
ian border. Approximately 2,500-meter graded-earth
runway, of which about 1,700 meters is serviceable.
Recently upgraded. Airfield to which visitors to
Jamba are brought.

Cuito-Cuanavale (15°10'28"S 19°10'04"E).
Government controlled. 2 km north of Cuito-Cuana-
vale, an Angolan/Cuban garrison. Approximately
2,300-meter runway, probably asphalt. Being upgrad-
ed. Runway being extended.

Luena (11°46'06"S 19°53'52"E).
Government controlled. 2 km northwest of Luena and
the Benguela Railroad. Approximately 2,400-meter
asphalt runway.

Mavinga (15°47'15"S 20°22'15"E).
UNITA controlled. 230 km north of Angolan-Namib-
ian border. Approximately 2,400-meter graded-earth
runway. Probably not operational.

Menongue East (14°38'25"S 17°41'45"E).
Primary government airfield in southeast. Supports
provincial capital and main garrison in region. Only
airfield capable of supporting operations by fighter
aircraft and transports. Approximately 3,600-meter
all-weather asphalt runway.

Tandue (16°52'40"S 17°59'50"E).
UNITA controlled. 10 km south of Savate. Approxi-
mately 1,500-meter graded-earth runway.

Topa (16°12'30"S 17°40'50"E).
UNITA controlled. 75 km south-southeast of
Cuando. Approximately 1,500-meter graded-earth
runway.

Government air attacks either in support of a ground
invasion or as a primary mission are possible. The
airfields at Menongue, Luena, and Cuito-Cuanavale
controlled by the Angolan Government forces would
be the probable staging airfields for attacks into
UNITA territory [redacted]

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Government airstrikes would be most feasible against
the UNITA camps closest to government bases, such
as the Luassingua River base camps west of Cuito-
Cuanavale and the camps south of Mavinga. Air-
strikes against main bases near the Namibian border
would be more difficult because of long distances
from the probable staging airfields; Jamba is about
600 km from Menongue. Also, action against facili-
ties close to the Namibian border could bring South
African retaliation. Any government air attack
against UNITA would be a psychological blow to
both the insurgents and their peasant supporters.

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Most parts of the region present few obstacles to air
operations. The flat-to-rolling plains covered by grass
and scrub offer numerous potential airdrop zones and
sites suitable for landing assault airplanes and heli-
copters. FAPLA, however, does not have many of
these aircraft and cannot transport large numbers of
troops. [redacted]

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Conclusions and Prospects

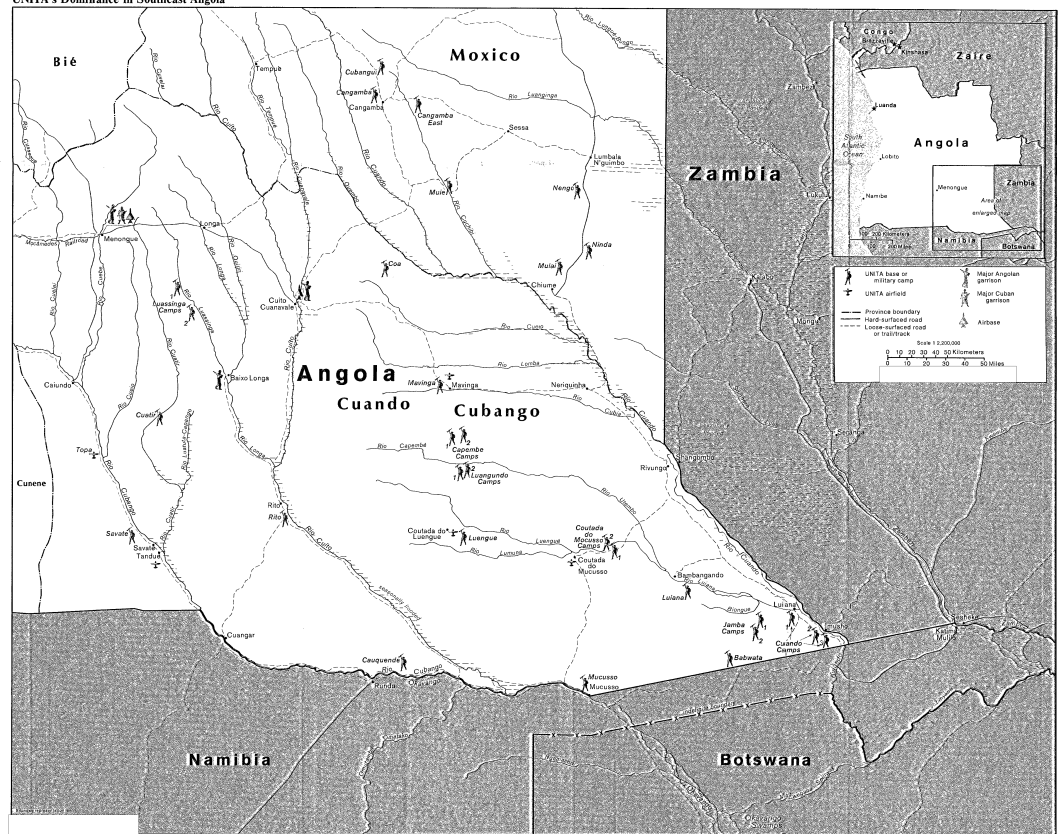
If government forces were to attempt new incursions
into the southeast during the next few months, they
would risk operating in the extremely difficult condi-
tions that a break in the current drought would bring.
The usually rainy period from November through
March could present formidable logistics problems for
a large-scale invasion. Therefore, we believe any
major ground operation against UNITA in the south-
east is unlikely before April. Moreover, because of its
vastness, remoteness, and conditions favoring uncon-
ventional warfare, we believe that the southeast would
be difficult for government forces to control even
following a successful invasion. [redacted]

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Figure 2
UNITA's Dominance in Southeast Angola



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